

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1.-18. (Cancelled)

19. (New) A method for replicating poxviruses and recombinants derivatives comprising the steps of inoculating avian embryonic derived stem cells with viral particles and culturing said cells in a basal medium until cells lysis occurs and newly produced viral particles are released in said medium.

20. (New) The method according to claim 19, wherein said recombinants derivatives are native or recombinant vaccinia virus.

21. (New) The method according to claim 19, wherein inoculation is performed with an m.o.i. (multiplicity of infection) of 0.01 to 0.5.

22. (New) The method according to claim 19, wherein said vaccinia virus is the modified vaccinia virus such as Modified Vaccinia virus Ankara (MVA) or a recombinant vaccinia virus.

23. (New) The method according to claim 19 for producing a vaccine against smallpox.

24. (New) The method according to claim 19, wherein said avian embryonic derived stem cell lines are obtainable by a process consisting of:

- a) culturing avian embryonic cells in a medium containing all the factors allowing their growth and an inactivated feeder layer,
- b) passage by modifying the culture medium so as to obtain progressive or total withdrawal of said factors, and/or of the serum and/or of the feeder layer,
- c) establishing adherent or non adherent cell lines capable of proliferating in a basal medium in the absence of exogenous growth factors, serum and/or inactivated feeder layer.

25. (New) The method according to claim 24, wherein said avian stem cells obtained in step c) are capable of proliferating for at least 600 days.

26. (New) The method according to claim 24, wherein said avian stem cells are avian embryonic stem cells or avian somatic stem cells.

27. (New) The method according to claim 24, wherein step b) consists in:

- a withdrawal of the growth factors components of the medium ; or
- a withdrawal of the serum component of the medium; or
- a withdrawal of the growth factors and then the serum components of the medium; or alternatively
- a withdrawal of the serum and then the growth factors components of the medium.

28. (New) The method according to claim 24, wherein step b) consists in a progressive or total withdrawal of the feeder layer.

29. (New) The method according to claim 28, wherein step b) consists in a progressive or total withdrawal of the feeder layer and then:

- in a withdrawal of the growth factors components of the medium ; or
- in a withdrawal of the serum component of the medium; or
- in a withdrawal of the growth factors and then the serum components of the medium; or alternatively
- in a withdrawal of the serum and then the growth factors components of the medium.

30. (New) The method according to claim 24, wherein said avian cell lines are non-adherent stem cells which proliferate in suspension in a medium free of exogenous growth factors.

31. (New) The method according to claim 24, wherein said avian cell lines are non-adherent stem cells which proliferate in suspension in a medium free of serum (serum-free medium).

32. (New) The method according to claim 19, wherein said avian cell lines are non-adherent stem cells which proliferate in suspension in a medium free of exogenous growth factors and serum.

33. (New) The method according to claim 19, wherein said avian cell lines have at least one of the following characteristics:

- a high nucleo-cytoplasmic ratio,
- an endogenous alkaline phosphatase activity,
- an endogenous telomerase activity,
- a reactivity with specific antibodies selected from the group of antibodies

SSEA-1 (TEC01), SSEA-3 and EMA-1.

34. (New) The method according to claim 19, wherein said avian cell lines are cultivated in basal medium.

35. (New) The method according to claim 34, wherein said basal medium is selected from the group consisting of DMEM, GMEM, HamF12 and McCoy basal medium supplemented with additives.

36. (New) The method according to claim 35, wherein said basal medium is supplemented with additives selected from the group consisting of nonessential amino acids, vitamins and sodium pyruvate.

37. (New) A method to produce live or attenuated vaccine comprising culturing the adherent or non adherent cell lines established in step c) according to the method of claim 24, inoculating said cells with viral particles and culturing said

cells in a basal medium until cell lysis occurs and newly produced viral particles are released in said medium.

38. (New) The method according to claim 37 to produce live or attenuated vaccine against smallpox.

39. (New) The method according to claim 37 wherein said basal medium is selected from the group consisting of DMEM, GMEM, HamF12 and McCoy basal medium supplemented with additives.

40. (New) A method to produce live or attenuated vaccine belonging to the family of orthopoxvirus, comprising the use of non-adherent cells lines established in step c) according to the method of claim 30.

41. (New) The method according to claim 40, wherein said live or attenuated vaccine belonging to the family of orthopoxvirus is selected from the group consisting of vaccinia virus, modified vaccinia virus and recombinant vaccinia virus.

42. (New) The method according to claim 41, wherein said modified vaccinia virus is a Modified Vaccinia virus Ankara (MVA).

43. (New) The method according to claim 40 for producing a vaccine against smallpox.

44. (New) The method according to claim 40 for producing a vaccine against cancer.

45. (New) A method to produce live or attenuated vaccine belonging to the family of orthopoxvirus, comprising the use of non-adherent cells lines established in step c) according to the method of claim 31.

46. (New) The method according to claim 45, wherein said live or attenuated vaccine belonging to the family of orthopoxvirus is selected from the group consisting of vaccinia virus, modified vaccinia virus and recombinant vaccinia virus.

47. (New) The method according to claim 46, wherein said modified vaccinia virus is a Modified Vaccinia virus Ankara (MVA).

48. (New) The method according to claim 47 for producing a vaccine against smallpox.

49. (New) The method according to claim 47 for producing a vaccine against cancer.

50. (New) A method to produce live or attenuated vaccine belonging to the family of orthopoxvirus, comprising the use of non-adherent cells lines established in step c) according to the method of claim 32.

51. (New) The method according to claim 50, wherein said live or attenuated vaccine belonging to the family of orthopoxvirus is selected from the group consisting of vaccinia virus, modified vaccinia virus and recombinant vaccinia virus.

52. (New) The method according to claim 51, wherein said modified vaccinia virus is a Modified Vaccinia virus Ankara (MVA).

53. (New) The method according to claim 50 for producing a vaccine against smallpox.

54. (New) The method according to claim 50 for producing a vaccine against cancer.